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PATENT & TRADEMARK

FORM PTO-1390 (REV. 10-95) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: 7652

U.S. APPLICATION NO. (if known, see 37 CFR 1.5): 10/019175

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/US00/18070	30 June 2000	01 July 1999

TITLE OF INVENTION: Transparent or Translucent, Liquid or Gel Type Automatic Dishwashing Detergent Product

APPLICANT(S) FOR DO/EO/US: SONG, Brian Xiaoqing et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information.

1. [x] This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.
2. [] This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.
3. [] This express request to begin national examination procedures (35 U.S.C. 371(f) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(l).
4. [x] A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. [x] A copy of the International Application was filed (35 U.S.C. 371(c)(2))
   a. [] is transmitted herewith (required only if not transmitted by the International Bureau).
   b. [] has been transmitted by the International Bureau.
   c. [x] is not required, as the application was filed in the United States Receiving Office (RO/US).
6. [] A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. [x] Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. [] are transmitted herewith (required only if not transmitted by the International Bureau).
   b. [] have been transmitted by the International Bureau.
   c. [] have not been made; however, the time limit for making such amendments has NOT expired.
   d. [x] have not been made and will not be made.
8. [] A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. [x] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. [] A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. [] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [x] A FIRST preliminary amendment.
    [] A SECOND or SUBSEQUENT preliminary amendment.
14. [] A substitute specification.
15. [x] A change of power of attorney and/or address letter.
16. [x] Other items or information: Copy of Petition for Name Change

"Express Mail" mailing label number EL483621289US

Date of Deposit 21 Dec 2001

I hereby certify that this paper/fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to The Assistant Commissioner of Patents, Washington, D.C. 20231.

Administrator Mailing Application

Signature Virginia O Byrd

531 Rec'd PCT/PTO 21 DEC 2001

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
10/019175	PCT/US00/18070	7652

	CALCULATIONS	PTO USE ONLY
ENTER APPROPRIATE BASIC FEE AMOUNT =	$740	
Surcharge of $130.00 for furnishing the oath or declaration later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$0	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total Claims	10-20	0	x $18.00	$0	
Independent Claims	2-3	0	x $84.00	$0	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			$280.00	$0	
TOTAL OF ABOVE CALCULATIONS =				$740	

Processing fee of $130.00 for furnishing the English translation later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(f)).	$0	
TOTAL NATIONAL FEE =	$740	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28,3.31). $40.00 per property +	$0	
TOTAL FEES ENCLOSED =	$740	
	Amount to be refunded	$
	charged	$

a. [ ] A check in the amount of $ ____ to cover the above fees is enclosed.

b. [x] Please charge my Deposit Account No. 16-2480 in the amount of $ 740 to cover the above fees. A duplicate copy of this sheet is enclosed.

c. [x] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 16-2480. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

K. L. Waugh, Patent Attorney
Customer Number 27752

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10/019175
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patent, Washington, D.C. 20231 on Dec 21, 2001

Kevin L. Waugh 47,206
Name of Attorney Registration No.

Signature of Attorney

Case 7652

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the matter of

U.S. National Phase Entry
Under 35 USC 371 from
the International Application of
Xiaoqing Song et al.
International Application No: PCT/US00/18070
Filed in the RO/US on June 30, 2000
Entitled: TRANSPARENT OR TRANSLUCENT, LIQUID OR GEL TYPE AUTOMATIC DISHWASHING DETERGENT

PRELIMINARY AMENDMENT

Box PCT
Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Before computing the fees for entering the captioned International Application into the U.S. National Phase, please enter the following amendments:

IN THE CLAIMS

Please amend Claim 1, cancel Claims 2-10, and add new Claims 11-19 to read as follows:

1. (Amended) A method of imparting transparency or translucency to a liquid or gel type automatic dishwashing detergent product, said method comprising the steps of:

a) providing a liquid or gel type automatic dishwashing detergent composition free from potassium tripolyphosphate, sodium tripolyphosphate, potassium tripolyphosphate, and mixtures thereof;
b) adding one or more of potassium sources to said liquid or gel type automatic dishwashing detergent composition, said potassium sources being free of potassium tripolyphosphate; and
c) maintaining a potassium:sodium weight ratio greater than at least about 0.5:1.

11. (New) A transparent or translucent, liquid or gel type automatic dishwashing detergent product, said product comprises:

a) a liquid or gel type automatic dishwashing detergent composition, said composition being free from potassium tripolyphosphate, sodium tripolyphosphate, potassium tripolyphosphate, and mixtures thereof;
b) one or more of potassium sources to said liquid or gel type automatic dishwashing detergent composition, said potassium sources being free of potassium tripolyphosphate; and
c) a potassium:sodium weight ratio greater than at least about 0.5:1.

12. (New) The method according to Claim 11, wherein said potassium source is selected from the group consisting of K_2SO_4, KNO_3, K_2CO_3, KCl, KBr, K_3PO_4, potassium silicate, potassium acetate, and mixtures thereof.

13. (New) The method according to Claim 11, wherein said potassium source is KOH.

14. (New) The method according to Claim 11, wherein said potassium source is added in an amount in a range of from about 2% to about 20% by weight of said liquid or gel type detergent composition.

15. (New) The method according to Claim 11, wherein said liquid or gel type detergent composition has a pH of less than about 6.5.

16. (New) The method according to Claim 11, wherein said liquid or gel type automatic dishwashing detergent composition includes a phosphate builder in an amount in a range from about 10% to about 40% of said detergent composition.

17. (New) The method according to Claim 11, wherein said potassium:sodium weight ratio is maintained in an amount greater than about 0.65:1.

18. (New) The method according to Claim 11, wherein said liquid or gel type automatic dishwashing detergent composition has a total solids content of less than about 20% by weight.

19. (New) The method according to Claim 11, wherein said liquid or gel type automatic dishwashing detergent composition has a total solids content in a range of from about 20% to 40% by weight.

STATUS OF THE CLAIMS

The support for these amendments is found in the claims as originally filed. Claim 1 has been amended for clarity. Please see **Version With Marked Up Changes** in Appendix. Claims 2-10 have been canceled. New Claims 11-19 have been added. These amendments are being entered to bring the claims into conformance with, *inter alia,* 37 CFR 1.75. No new matter is added. Claims 1 and 11-19 are now pending in this application.

Respectfully submitted,

For: **Xiaoqing Song et al.**

By _____

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December 21, 2001
Cincinnati, Ohio
(7652 PrelimAmend.doc)

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VERSION WITH MARKED UP CHANGES

Claim 1 has been amended.

1. (Amended) A [process] method of imparting transparency or translucency to a liquid or gel type automatic dishwashing detergent product, [characterized by] said method comprising the steps of:
   a) providing a liquid or gel type automatic dishwashing detergent composition [expressly] free from [(i)] potassium tripolyphosphate, [and (ii) mixture of] sodium tripolyphosphate, [and] potassium tripolyphosphate, and mixtures thereof;
   b) adding one or more of potassium sources to said liquid or gel type automatic dishwashing detergent composition, said potassium sources being [expressly] free of potassium tripolyphosphate; and
   c) maintaining a potassium:sodium weight ratio greater than at least about 0.5:1.

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TRANSPARENT OR TRANSLUCENT, LIQUID OR GEL TYPE AUTOMATIC DISHWASHING DETERGENT PRODUCT

TECHNICAL FIELD

The present invention relates to liquid or gel type automatic dishwashing detergent compositions. More particularly, the invention relates to a process of imparting transparency or translucency to a liquid or gel type automatic dishwashing detergent product and a transparent or translucent a liquid or gel type automatic dishwashing detergent product having one or more potassium sources to maintain pre-selected potassium:sodium ratios in order to make the composition transparent or translucent while at the same time not using any (i) potassium tripolyphosphate or (ii) mixtures of sodium and potassium tripolyphosphate.

BACKGROUND OF THE INVENTION

Improving the aesthetics of a liquid or gel type automatic dishwashing detergent product (liquid/gel ADW or liqui-gel ADW) is believed to be a very important aspect of this product. Typically, consumers of liquid ADW products have a preference for liquid ADW products having a certain color or appearance. The addition of a transparent or translucent characteristics to a liquid ADW composition can improve the desirability of the product because of a transparent or translucent product has a shiny appearance which is liked by consumers. Also, a transparent or translucent product allows for suspension of colored prills into that product, which can further enhance the physical appearance of the product. The transparent product may be clear, or dyed, using dyes that do not cause significant staining or dyeing of plastics during the wash cycle in automatic dishwashing.

In the low-free water environment of a typical phosphate containing gel type ADW composition, it is a real challenge to obtain clear or translucent characteristics. This is primarily due to the relatively low solubility of commodity phosphate builders, such as sodium tripolyphosphate (STPP), which has a solubility typically of about 14.5 grams per 100 cc of water at room temperature. Previous formulators wishing to obtain clear or translucent characteristics in a liquid or gel type ADW have been forced to use highly soluble potassium tripolyphosphate (KTPP), or alternatively, commercially available mixtures of sodium tripolyphosphate and potassium tripolyphosphates (commonly referred to as SKTPP) which have heretofore served a dual purpose of being a potassium source (for transparency/translucency) and a phosphate source (for cleaning performance). The use of KTPP and SKTPP is generally considered undesirable for various reasons, one of them being the economics of manufacturing. Alternatively, the previous

formulators have been forced to use very low levels of KTPPs or SKTPs, which detrimentally affects cleaning performance. Thus, a considerable effort has been directed in this field, to develop novel solutions for attaining transparency and/or translucency in liqui-gel ADWs.

It has been desirable to have a liqui-gel ADW product having transparency and/or translucency characteristics, but without using (i) potassium tripolyphosphate (KTPP), and/or (ii) commercially available mixtures of sodium tripolyphosphate and potassium tripolyphosphate (SKTPP), while at the same time still maintaining high phosphate levels so as to not detrimentally affect cleaning performance.

The inventors of the present invention have discovered that by maintaining a K:Na weight ratio greater than at least about 0.5:1, K:Na, outstanding translucent characteristics can be imparted without having to use KTPP or SKTPP. Thus, high phosphate levels can be attained by the addition of sodium tripolyphosphate (STPP) alone, along with the addition of potassium hydroxide (KOH) for obtaining high alkalinity or the addition of other sources of potassium for obtaining moderate alkalinity.

The present invention is thus directed to overcome one or more of the problems as set forth before.

SUMMARY OF THE INVENTION

The invention meets the needs above by providing a process of imparting transparency or translucency to a liquid or gel type automatic dishwashing detergent product, and a transparent or translucent a liquid or gel type automatic dishwashing detergent product.

In one aspect of the present invention, the process of imparting transparency or translucency to a liquid or gel type automatic dishwashing detergent product comprises the steps of providing a liquid or gel type automatic dishwashing detergent composition expressly free from (i) potassium tripolyphosphate and (ii) mixture of sodium tripolyphosphate and potassium tripolyphosphate, adding one or more of potassium sources to the liquid or gel type automatic dishwashing detergent composition, the potassium sources being expressly free of potassium tripolyphosphate, and maintaining a potassium:sodium weight ratio greater than at least about 0.5:1.

In another aspect of the present invention, the transparent or translucent a liquid or gel type automatic dishwashing detergent product comprises a liquid or gel type automatic dishwashing detergent composition. The composition is expressly free from (i) potassium tripolyphosphate and (ii) mixture of sodium tripolyphosphate and potassium tripolyphosphate. The composition includes one or more of potassium sources, the potassium sources being

expressly free of potassium tripolyphosphate. The potassium:sodium weight ratio is greater than at least about 0.5:1.

DETAILED DESCRIPTION OF THE INVENTION

In the preferred embodiment of the present invention, the process of imparting transparency or translucency to a liquid or gel type automatic dishwashing detergent product comprises the steps of providing a liquid or gel type automatic dishwashing detergent composition expressly free from KTPP and SKTPP.

Express exclusion of KTPP and SKTPP

In the preferred embodiment, the liquid or gel type automatic dishwashing detergent composition is expressly free of KTPP and SKTPP. The abbreviation KTPP as used herein means potassium tripolyphosphate, as is commercially available, which may contain incidental and/or trace impurities of other tripolyphosphates, such as STPP. The abbreviation SKTPP, as used herein means commercially available mixtures of STPP and KTPP, wherein the weight ratio of Na;K is more than 95:5.

Potassium sources

The process further includes the step of adding one or more of potassium sources to the liquid or gel type automatic dishwashing detergent composition, the potassium sources being expressly free of potassium tripolyphosphate. In the preferred embodiment of the present invention, the potassium source is KOH, added in an amount desirably in a range of from about 4% to about 20% by weight of the detergent composition and preferably in a range of from about 8% to about 15% by weight of the detergent composition. When KOH is the preferred potassium source, the liquid or gel type automatic dishwashing detergent composition has a pH desirably of at least about 9, and preferably, in a range of from about 11 to about 12.5. For purposes of this disclosure, the term pH, as used herein means pH of a 1% solution of liquid ADW composition in water by weight. Alternatively, the potassium source is selected from the group consisting of K_2SO_4, KNO_3, K_2CO_3, KCl, KBr, K_3PO_4, potassium silicate, potassium acetate, or mixtures thereof. When the potassium source is selected from the aforementioned group, it is added in an amount desirably in a range of from about 2% to about 20% by weight of the detergent composition and preferably in a range of from about 5% to about 16% by weight of the detergent composition, depending upon the availability of K in the potassium source on a molar basis. When the potassium source is selected from the aforementioned group, the liquid or gel type automatic dishwashing detergent composition has a pH of at least about 6.5. The lower pH values are preferred when formulating the detergent composition with enzymes, which may be

present in the liqui-gel composition in a liquid form or in the form of solid prills that are coated with a permeable or impermeable coating.

K:Na weight ratio

The process further includes the step of maintaining a potassium:sodium weight ratio desirably greater than about 0.5:1, and preferably above 0.65:1. In a more preferred embodiment, the K:Na weight ratio is desirably maintained in a range of from about 0.5:1 to about 1.25:1, particularly when the detergent composition has a total solids content of less than about 20% by weight. Preferably, the potassium:sodium weight ratio is maintained at least greater than 0.75:1, and more preferably, in a range of from about 0.75:1 to about 2:1, potassium:sodium, particularly when the liquid or gel type automatic dishwashing detergent composition has a total solids content in a range of from about 20% to about 40% by weight. The total solids content comprises solids in the form of STPP, i.e., the phosphate builder, which is typically present in an amount in a range of about 10% to 40%, thickener, such as a polymer, and potassium hydroxide, i.e., one of the potassium sources. It should be noted that other optional ingredients may also make up the total solids content in a liqui-gel ADW composition.

Phosphate Builder

The liquid or gel type automatic dishwashing detergent composition provided in this process, further includes a phosphate builder in an amount desirably in a range of from about 10% to about 40% of said detergent composition, and preferably in a range of from about 12% to about 30% of said detergent composition. The preferred phosphate builder useful in practicing this invention is sodium tripolyphosphate (STPP). The STPP is essentially free of any KTPP, other than what may be present in trace quantities as naturally occurring impurity or an impurity during the commercial manufacturing of STPP. Other phosphate builders known to those skilled in the art may also be utilized in lieu of or in conjunction with STPP.

In another embodiment of the present invention, a transparent or translucent a liquid or gel type automatic dishwashing detergent product includes a liquid or gel type automatic dishwashing detergent composition. The composition is expressly free of KTPP and SKTPP. The composition includes one or more of potassium sources, the potassium sources being expressly free of KTPP. The potassium:sodium weight ratio is desirably greater than about 0.5:1.

Other ingredients

(a) Thickeners

The physical stability of the liquid product may be improved and the thickness of the liquid product may be altered by the addition of a cross linking polyacrylate thickener to the liquid detergent product as a thixotropic thickener.

(b) pH adjusting components

The above liquid automatic dishwashing detergent product is preferably low foaming, readily soluble in the washing medium and most effective at pH values best conducive to improved cleaning performance, such as in a range of desirably from about pH 6.5 to about pH 12.5, and preferably from about pH 8.0 to about pH 12.0, more preferably from about pH 8.5 to about pH 12.5. The pH adjusting components are desirably selected from sodium or potassium hydroxide, sodium or potassium carbonate or sesquicarbonate, sodium or potassium silicate, boric acid, sodium or potassium bicarbonate, sodium or potassium borate, and mixtures thereof. NaOH or KOH are the preferred ingredients for increasing the pH to within the above ranges. Other preferred pH adjusting ingredients are sodium carbonate, potassium carbonate, and mixtures thereof.

(c) Low Foaming Surfactant

The liquid nonionic surfactant detergents that can be used to practice the present invention are preferably are alkyl ethoxylates in non-chlorine bleach liquid ADW compositions. One example of a non-chlorine bleach stable surfactant is SLF18® manufactured by BASF Corporation. Alternatively, in chlorine bleach containing liquid ADW compositions, chlorine bleach stable low foaming surfactants are preferred and such surfactants are present in a range of from about 0.1% to about 10% by weight of the liquid composition. Such surfactants are generally known to one skilled in the art and need not be elaborated here, for purposes of brevity. An example of a chlorine bleach stable surfactant is Dowfax® anionic surfactant available from the Dow Chemical Company.

(d) Enzymes

Enzymes may be present in the liqui-gel composition in the form of liquid enzymes when the pH of the liquid ADW is less than about 10.0 At pH's greater than about 10.0, enzymes in the form of solid prills that are coated with impermeable or permeable coating may be used. Various types of enzymes are well known to those skilled in the art, such as proteases and amylases, both of which are useful in carrying out this invention.

(e) Other adjunct ingredients

The liquid automatic dishwashing detergent composition may optionally contain up to about 20% of a dispersant polymer selected from the group consisting of polyacrylates and polyacrylate copolymers.

To exemplify various embodiments of the present invention, Samples A, B and C of the liquid automatic dishwashing detergent product composition are formulated using the below named ingredients, as set forth in Example A.

EXAMPLE A

Ingredient (weight % active)	Sample A	Sample B	Sample C
Sodium Tripolyphosphate	16.0	16.0	16.0
Potassium Tripolyphosphate	0.0	0.0	0.0
Sodium Silicate	0.0	0.0	0.5
Potassium hydroxide	0.0	11.0	11.0
Sodium hydroxide	0.0	0.0	0.0
Polyacrylate polymer	0.0	0.0	1.0
Nitric Acid	0.012	0.0	0.0
Perfume	0.03	0.03	0.03
Nonionic surfactant	0.3	0.5	0.5
Polyacrylate polymer thickener	1.5	1.0	1.0
Protease enzyme	0.5 (liquid)	1.0 (prill)	1.0 (prill)
Amylase enzyme	0.7 (liquid)	1.0 (prill)	1.0 (prill)
propylene glycol	4.0	0.0	0.0
sodium borate	4.0	0.0	0.0
Potassium sulfate	16.0	0.0	0.0
Water	Bal.	Bal.	Bal.
TOTAL	100.0	100.0	100.0

pH	Sample A	Sample B	Sample C
	8.5	12.1	12.1

Accordingly, having thus described the invention in detail, it will be obvious to those skilled in the art that various changes may be made without departing from the scope of the invention and the invention is not to be considered limited to what is described in the specification.

What is claimed is:

WHAT IS CLAIMED IS:

1. A process of imparting transparency or translucency to a liquid or gel type automatic dishwashing detergent product, characterized by the steps of:

providing a liquid or gel type automatic dishwashing detergent composition expressly free from (i) potassium tripolyphosphate and (ii) mixture of sodium tripolyphosphate and potassium tripolyphosphate;

adding one or more of potassium sources to said liquid or gel type automatic dishwashing detergent composition, said potassium sources being expressly free of potassium tripolyphosphate; and

maintaining a potassium:sodium weight ratio greater than at least 0.5:1.

2. A transparent or translucent a liquid or gel type automatic dishwashing detergent product, characterized by:

a liquid or gel type automatic dishwashing detergent composition, said composition being expressly free from (i) potassium tripolyphosphate and (ii) mixture of sodium tripolyphosphate and potassium tripolyphosphate;

one or more of potassium sources, said potassium sources being expressly free of potassium tripolyphosphate; and

a potassium:sodium weight ratio greater than at least 0.5:1.

3. The process according to any of Claims 1-2, wherein said potassium source is selected from the group consisting of K_2SO_4, KNO_3, K_2CO_3, KCl, KBr, K_3PO_4, potassium silicate, potassium acetate, or mixtures thereof.

4. The process according to any of Claims 1-3, wherein said potassium source is KOH.

5. The process according to any of Claims 1-4, wherein said potassium source is added in an amount in a range of from 2% to 20% by weight of said detergent composition.

6. The process according to any of Claims 1-5, wherein said liquid or gel type automatic dishwashing detergent composition has a pH of at least 6.5.

7. The process according to any of Claims 1-6, wherein said liquid or gel type automatic dishwashing detergent composition includes a phosphate builder in an amount in a range of from 10% to 40% of said detergent composition.

8. The process according to any of Claims 1-7, wherein said potassium:sodium weight ratio is maintained in an amount greater than 0.65:1.

9. The process according to any of Claims 1-8, wherein said liquid or gel type automatic dishwashing detergent composition has a total solids content of less than 20% by weight.

10. The process according to any of Claims 1-9, wherein said liquid or gel type automatic dishwashing detergent composition has a total solids content in a range of from 20% to 40% by weight.

H:\EPOCLAIMS\7652-EPO:LSP

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(81) Designated States *(national)*: AE, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 01/02531 A1

(54) Title: TRANSPARENT OR TRANSLUCENT, LIQUID OR GEL TYPE AUTOMATIC DISHWASHING DETERGENT PRODUCT

(57) Abstract: A process of imparting transparency or translucency to a liquid or gel type automatic dishwashing detergent product is disclosed. The process includes the steps of providing a liquid or gel type automatic dishwashing detergent composition expressly free from (i) potassium tripolyphosphate and (ii) mixture of sodium tripolyphosphate and potassium tripolyphosphate, adding one or more of potassium sources to the liquid or gel type automatic dishwashing detergent composition, the potassium sources being expressly free of potassium tripolyphosphate, and maintaining a K:Na weight ratio greater than at least about 0.5:1.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the U.S. National Phase Entry
Under 35 USC 371 from
International Application of
SONG, Brian Xiaoqing et al.
Int'l. Application No. PCT/US00/18070
Filed in the RO/US on 30 June 2000
Entitled: *Transparent or Translucent, Liquid Or Gel Type Automatic Dishwashing Detergent Products*

ASSOCIATE POWER OF ATTORNEY

Assistant Commissioner for Patents
Box PCT
Washington, D.C. 20231

Dear Sir:

You are requested to recognize K. W. Zerby (Registration No. 32,323), J. V. Bamber (Registration No. 31,148), J. J. Camp (Registration No. 44,582), B. M. Bolam (Registration No. 37,513) and K. L. Waugh (Registration No. 47,206) of The Procter & Gamble Company, Cincinnati, Ohio, as Associate Attorneys to prosecute this application, to make alterations and amendments therein, and to transact all business in the Patent Office connected with the application or with the patent granted thereupon.

Please address all future communications to:

K. L. Waugh, Patent Attorney
Customer Number 27752

Respectfully submitted for Applicants,

By _____
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03 December 2001
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DECLARATION COMBINED WITH POWER OF ATTORNEY

Attorney Docket No. 7652

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name.

I believe I am the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled TRANSPARENT OR TRANSLUCENT, LIQUID OR GEL TYPE AUTOMATIC DISHWASHING DETERGENT PRODUCT
the specification of which

(check one) [] is attached hereto.
[X] was filed as United States Application or PCT International Application No.US00/18070 on June 30, 2000. (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
(Number)	(Country)	(Day/Month/Year Filed)	[] Yes	[] No

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below.

60/141,932	July 1, 1999		
Application Serial No.	Filing Date	Application Serial No.	Filing Date

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s), or §365(c) of any PCT International application designating the United States of America, listed below:

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (If applicable)

As named inventor, I hereby appoint the registered practitioners associated with customer number 27752 to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

SEND CORRESPONDENCE TO: Customer Number 27752

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first joint inventor Brian Xiaoqing Song
Inventor's signature _____ Date 7/12/00

Residence 6594 Tylers Crossing, West Chester, Ohio 45069 OH
Citizenship United States
Post Office Address 6594 Tylers Crossing, West Chester, Ohio 45069

Full name of second joint inventor, if any Peter Robert Foley
Inventor's signature _____ Date 7/17/00

Residence 3326 Glenhurst Place, Cincinnati, Ohio 45209
Citizenship United Kingdom
Post Office Address 3326 Glenhurst Place, Cincinnati, Ohio 45209

Full name of third joint inventor, if any Melissa Dee Aquino
Inventor's signature _____ Date

Residence 2890 Morning Ridge Drive, Cincinnati, Ohio 45211
Citizenship United States
Post Office Address 2890 Morning Ridge Drive, Cincinnati, Ohio 45211

7652Pdecl:sak

Department of Justice
Immigration and Naturalization Service

Petition for Name Change

U.S. District Court
(NAME OF COURT)

As part of the naturalization process, you have the opportunity to legally change your name. Please complete lines 1 - 8 (Type or print clearly).

My full and correct name (current name):

1. XIAOQING — SONG
(FIRST) (MIDDLE) (LAST)

2. Address: 6594 Tylers Crossing West Chester, Ohio 45069
(Number/Street) (City/State) (Zip Code)

3. Country of Nationality: P.R. China 4. Date of Birth: 05, 21, 1963
(Month) (Day) (Complete Year)

5. Alien Registration Card (Green Card) Number: A 029.440.321

6. I certify that I am not seeking a change of name for any unlawful purpose such as the avoidance of debt or evasion of law enforcement.

7. I petition the court to change my name to:

BRian XIAOQING SONG
(FIRST) (MIDDLE) (LAST)

8. Date: 03, 08, 1999 X Xiaoqing Song
(Month) (Day) (Complete Year) Signature of Petitioner, (current name)

CERTIFICATION OF NAME CHANGE

I CERTIFY THAT THE ABOVE PETITION WAS GRANTED BY THE COURT ON MAY 28 1999
(Date)

Kenneth J. Murphy, Clerk

(Clerk)

(Deputy Clerk)

IMPORTANT INFORMATION

Your copy of this petition, along with your Certificate of Naturalization, which you will receive upon taking the oath of allegiance, will verify that you elected to change your name. Your Certificate of Naturalization bears your new name as changed per Order of the Court.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Xiaoqing Song
Inventor's signature _____ 1-31-02
Date
Residence 6594 Tylers Crossing, West Chester, Ohio 45069
Citizenship United States
Mailing Address 6594 Tylers Crossing, West Chester, Ohio 45069

Full name of second inventor, if any Peter Robert Foley
Inventor's signature _____ 29 January 2002
Date
Residence 3326 Glenhurst Place, Cincinnati, Ohio 45209 OH
Citizenship United Kingdom
Mailing Address 3326 Glenhurst Place, Cincinnati, Ohio 45209

Full name of third inventor, if any Melissa Dee Aquino
Inventor's signature _____
Date
Residence 2124 Springfield Court, Ft. Collins, Colorado 85021
Citizenship United States
Mailing Address 2124 Springfield Court, Ft. Collins, Colorado 85021

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Xiaoqing Song
Inventor's signature _____ Date
Residence 6594 Tylers Crossing, West Chester, Ohio 45069
Citizenship United States
Mailing Address 6594 Tylers Crossing, West Chester, Ohio 45069

Full name of second inventor, if any Peter Robert Foley
Inventor's signature _____ Date
Residence 3326 Glenhurst Place, Cincinnati, Ohio 45209
Citizenship United Kingdom
Mailing Address 3326 Glenhurst Place, Cincinnati, Ohio 45209

300
Full name of third inventor, if any Melissa Dee Aquino
Inventor's signature Melissa Dee Aquino 3/22/02
Date
Residence 2124 Springfield Court, Ft. Collins, Colorado 85021 CO
Citizenship United States
Mailing Address 2124 Springfield Court, Ft. Collins, Colorado 85021